REMARKS

This is intended as a full and complete response to the Office Action dated July 10, 2003, having a shortened statutory period for response set to expire on October 10, 2003. Claims 1-24 are pending in the application. Applicants have amended claims 1, 15, and 18 to correct matters of form. Claims 25-33 have been added. No new matter has been added. Please reconsider the claims pending in the application and the new claims for reasons discussed below.

Claims 1-24 stand rejected under 3 U.S.C. § 103(a) as being unpatentable over *Castano-Mears et al.* (U.S. Patent Number 6,457,518 B1) in view of *Evans et al.* (U.S. Patent Number 3,844,345). The Examiner states that *Castano-Mears et al.* discloses, particularly in Figures 15-18, a downhole expandable well screen that expands to substantially contact the wall of the wellbore containing expandable metal tubular ribs (designated by number 172), a perforated base pipe (designated by number 168), a filtering media (designated by number 170), and a protective outer shroud. The Examiner states that the ribs are used as housings to convey instrumentation lines. The Examiner acknowledges that the ribs of *Castano-Mears et al.* are designed to collapse under excessive expansion force, as stated in column 11, lines 41-45.

The Examiner further acknowledges that *Castano-Mears et al.* does not disclose a crescent-shaped housing, wherein the housing is placed between the expandable well screen and the wellbore. The Examiner then states that *Evans et al.* discloses, particularly in Figures 1-2, an encapsulated control line (designated by letter A) containing a crescent-shaped sheath or housing (designated as number 14) and two metal tubulars (designated as number 12 and 13) that serve as control lines.

To combine *Castano-Mears et al.* with *Evans et al.*, the Examiner states the encapsulation of *Evans et al.* is capable of withstanding excessive radial expansion forces, concluding that the control lines enveloped by the elastomeric material therefore remain intact while the encapsulation is subject to excessive radial expansion forces. Further, the Examiner states that *Evans et al.* is primarily concerned with preserving the integrity of control lines during downhole operations. The Examiner then states that it would have been obvious to a person having ordinary skill in the art, at the time the invention was made, to convey the instrumentation lines of *Castano-Mears et al.* in the encapsulation or

line housing of *Evans et al.*, wherein the encapsulation is placed between the tool and the wall of the wellbore of *Castano-Mears et al.*, as taught by *Evans et al.*, to afford the structural integrity of instrumentation lines if the ribs of *Castano-Mears et al.* fail under excessive expansion force.

Applicant respectfully traverses the rejection to claims 1-24. *Castano-Mears et al.*, alone or in combination with *Evans et al.*, does not teach, show, or suggest an encapsulation disposable between an expandable downhole tool and a wall of a wellbore, as recited in claim 1 and its dependent claims 2-8, claim 9 and its dependent claims 10-12, and claim 13 and its dependent claim 14. *Castano-Mears et al.* discloses ribs within a well screen which may have control lines therethrough. As shown in Figure 17 of *Castano-Mears et al.*, the ribs (number 172) are disposed between the filter media (number 170) and the perforated base pipe (number 168) of the well screen, and not disposed between the well screen and the wellbore.

Referring generally to Figures 1 and 2 of *Evans et al.*, *Evans et al.* teaches production tubing (letter B) having control tubes (numbers 12 and 13) within a crescent-shaped housing (number 14) mounted to the outer surface (number 21) of the production tubing. As shown in Figure 4 of *Evans et al.*, rubber packers (letter E) of an annular blowout preventer (letter M), which are disposed above the surface of the wellbore (letter W) in the wellhead (letter X), are expanded inwardly into contact with the housing and the production tubing. The production tubing is not expandable, as the packers are expanded into the housing and the production tubing; therefore, the production tubing cannot be used to designate the expandable downhole tool. Furthermore, if the packers are utilized to designate the expandable downhole tool, the housing is not disposed between the packer and the wall of the wellbore; rather, the packer is disposed between the wall of the wellbore and the housing. Therefore, *Evans et al.* does not teach an encapsulation disposable between an expandable downhole tool and a wall of a wellbore.

Furthermore, with regards to claim 1 and its dependent claims 2-8 and claim 13 and its dependent claim 14, *Castano-Mears et al.*, alone or in combination with *Evans et al.*, does not teach, show, or suggest at least a portion of the first wall of the encapsulation engaging the wall of the wellbore when the expandable downhole tool is in an expanded state. Regarding *Castano-Mears et al.*, because the ribs are disposed between the filter media and the perforated base pipe, no portion of the ribs engage the wall of the wellbore

when the well screen is expanded. Regarding *Evans et al.*, the packers extend inward from the wellbore to contact the housing and the production tubing, so that no portion of the housing engages the wall of the wellbore before, during, or after expansion of the packer into the housing.

Additionally, regarding claim 9 and its dependent claims 10-12, *Castano-Mears et al.*, alone or in combination with *Evans et al.*, does not teach, show, or suggest the encapsulation deforming to the general contour of the wall of the wellbore when the downhole tool is expanded against the wall of the wellbore. The ribs of *Castano-Mears et al.* do not contact the wall of the wellbore because they are disposed between the filter media and the base pipe; therefore, the ribs do not deform to the general contour of the wall of the wellbore. Moreover, the ribs of *Castano-Mears et al.* collapse under excessive expansion force and are not deformable. *See* column 11, lines 45-54. Regarding *Evans et al.*, the housing does not contact the wall of the wellbore because the packer is expanded from the wellbore to the housing, so the housing cannot deform to the general contour of the wellbore. Furthermore, the production tubing of *Evans et al.* cannot represent the downhole tool expanded against the wall of the wellbore, as the production tubing is not expandable, and the packers cannot represent the downhole tool because they are not expanded against the wall of the wellbore.

Additionally, *Castano-Mears et al.*, alone or in combination with *Evans et al.*, does not teach, show, or suggest an enclosed line housing disposed on an outer surface of a substantially tubular body, wherein the enclosed line housing is deformable upon expansion of the tubular body, as recited in claim 15 and its dependent claims 16-17 and claim 24. *Castano-Mears et al.*, alone or in combination with *Evans et al.*, does not teach, show, or suggest an enclosed line housing disposed on the outer surface of the shroud, wherein the encapsulation is deformable upon expansion of the downhole tool, as recited in claim 18 and its dependent claims 19-23. The ribs of *Castano-Mears et al.* are disposed between the filter media and the perforated base pipe, and thus are not disposed on the outer surface of the well screen. Moreover, the ribs of *Castano-Mears et al.* collapse when subjected to excessive expansion force; therefore, the ribs are not deformable upon expansion of the well screen. The housing of *Evans et al.* is located on the outer surface of the production tubing, which is not expandable. The housing of *Evans et al.* is capable of withstanding expansion force due to the packers contacting the housing and the

production tubing, but there is no indication in *Evans et al.* that the housing would be deformable if the production tubing were expandable. Therefore, neither *Castano-Mears et al.* nor *Evans et al.* teaches an enclosed line housing deformable upon expansion of the tubular body or the downhole tool.

Because of the above reasons, *Castano-Mears et al.*, alone or in combination with *Evans et al.*, does not teach, show, or suggest an encapsulation for use in a wellbore, comprising a first arcuate wall having a first end and a second end, and a second wall having a first end and a second end, said first and second ends of said second wall contacting said first and second ends of said first arcuate wall so as to form a line housing between said first and second walls, wherein the encapsulation is disposable between an expandable downhole tool and a wall of a wellbore, and wherein at least a portion of the first arcuate wall engages the wall of the wellbore when the expandable downhole tool is in an expanded state, as recited in claim 1 and its dependent claims 2-8. Additionally, *Castano-Mears et al.*, alone or in combination with *Evans et al.*, does not teach, show, or suggest an encapsulation between an expandable downhole tool and a wall of a wellbore, the encapsulation comprising at least two walls fabricated from a deformable material, said encapsulation deforming to the general contour of the wall of the wellbore when said downhole tool is expanded against said wall of the wellbore, as recited in claim 9 and its dependent claims 10-12. *Castano-Mears et al.*, alone or in combination with *Evans et al.*, does not teach, show, or suggest an encapsulation for use in a wellbore with an expandable downhole tool, comprising a first wall, a second wall, and a line housing disposed between said first and second walls, wherein the encapsulation is disposable between an expandable downhole tool and a wall of a wellbore, and wherein at least a portion of the first wall engages the wall of the wellbore when the expandable downhole tool is in an expanded state, as recited in claim 13 and its dependent claim 14.

Moreover, for the above reasons, *Castano-Mears et al.*, alone or in combination with *Evans et al.*, does not teach, show, or suggest an expandable downhole tool, comprising a substantially tubular body forming an outer surface, and an enclosed line housing defining an arcuate outer surface disposed on the outer surface of the tubular body, wherein the enclosed line housing is deformable upon expansion of the tubular body, as recited in claim 15 and its dependent claims 16-17. *Castano-Mears et al.*, alone or in combination with *Evans et al.*, also does not teach, show, or suggest an expandable

downhole tool, comprising a base pipe, a shroud concentrically disposed about the base pipe, a filter media disposed between the base pipe and the shroud, and an enclosed line housing disposed on the outer surface of the shroud, wherein the enclosed line housing is deformable upon expansion of the downhole tool, as recited in claim 18 and its dependent claims 19-23. Similarly, *Castano-Mears et al.*, alone or in combination with *Evans et al.*, also does not teach, show, or suggest an expandable downhole tool, comprising a substantially tubular body forming an outer surface, an enclosed line housing disposed on the outer surface of the tubular body, and a line disposed in the enclosed line housing, wherein the line is selected from one of a control line and a data line, wherein the line housing is deformable upon expansion of the tubular body, as recited in claim 24. Therefore, Applicant respectfully requests removal of the rejection to and allowance of claims 1-24.

New claim 25 depends from claim 15, new claim 26 depends from claim 18, and new claim 27 depends from claim 24; therefore, claims 25, 26, and 27 are allowable for at least the same reasons as claims 15, 18, and 24 are allowable. Additionally, neither *Castano-Mears et al.* nor *Evans et al.*, alone or in combination, discloses an enclosed line housing disposable between the tubular body (or the shroud) and the wall of the wellbore. Accordingly, Applicant respectfully requests allowance of claims 25-27.

Castano-Mears et al., alone or in combination with *Evans et al.*, does not teach, show, or suggest an encapsulation disposed between an expandable downhole tool and an inner diameter of a wellbore, the encapsulation comprising at least two walls fabricated from a deformable material, wherein the encapsulation contacts the inner diameter of the wellbore when the downhole tool is expanded, as recited in new claim 28. Therefore, Applicant respectfully requests allowance of claim 28.

Castano-Mears et al., alone or in combination with *Evans et al.*, does not teach, show, or suggest a method of protecting one or more control lines within a wellbore, comprising providing a downhole tool having an enclosed line housing therethrough, expanding the downhole tool into the wellbore, thereby radially moving the line housing through an annulus between the downhole tool and the wellbore, and protecting the one or more control lines with the enclosed line housing during the expansion, as recited in new claims 29-31. The ribs of *Castano-Mears et al.* do not move through an annulus between the downhole tool and the wellbore, as the ribs remain within the well screen throughout

the expansion process. Regarding *Evans et al.*, the housing remains adjacent to the production tubing, and the inner surface of the housing is mounted to the outer surface of the production tubing, before, during, and after expansion of the packer into the housing, so that the housing is not moved through the annulus between the production tubing and the packer. *See* column 3, lines 39-47. Therefore, Applicant respectfully requests allowance of claims 29-31.

Castano-Mears et al., alone or in combination with *Evans et al.*, does not teach, show, or suggest an apparatus for use in a wellbore, comprising an expandable tubular, a control line connected to the outer diameter of the expandable tubular, and a controller communicating with the control line, wherein the control line is disposed within a housing which provides a substantially sealed annulus between the expandable tubular and the wellbore, as recited in claims 32-33. Accordingly, Applicant respectfully requests allowance of claims 32-33.

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to Applicant's disclosure than the primary references cited in the office action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed. Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully requests allowance of the claims.

Respectfully submitted,

Kyla D. Cummings

Kyla D. Cummings
Registration No. 50,682
MOSER, PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd., Suite 1500
Houston, TX 77056
Telephone: (650) 330-2310
Facsimile: (650) 330-2314
Agent for Applicant(s)